How to / Maniaplanet / General / Graphics & Audio

Author : TStarGermany (Translations:)

Introduction

Maniaplanet supports a few different types of media files, which we have to deal with when we want to manipulate them, create car skins, environment mods etc. pp.

Funnily enough, MP has a little secret : Often a specific file (mostly DDS ones) can be replaced with a file of a different format, saving space and therefor transfer bandwidth when transfering the contents to other users.

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Supported graphic formats

Trackmania supports these graphic file types:
→ **DDS**: Microsoft Direct Draw Surface, mostly used for surface textures in 3D environments. Details below.
→ **TGA**: Targa, mostly used for surface textures in 2D/3D environments. Supports 24bit color, 8 bit alpha.
→ **PNG**: Portable Network Graphics, mostly used for hgih quality 2D graphics. Supports 24bit color, 8 bit alpha.
→ **JPG**: JayPeg/JPEG, mostly used for lossy, small bandwidth 2D graphics. Supports 24bit color, no alpha.
→ **BIK**: Video format, read about it in our **legacy tutorial**.

DDS in detail

Dealing with PNG, TGA and JPG isn't hard. Every image viewing or editing software can read and write these formats. DDS however, is different. It was introduced for Microsoft's DirectX 3D framework and has lots of different subformats, depending on what the texture graphics is used for.

Maniaplanet uses .DDS textures in vast amounts and in various ways. If you want to manipulate these files, you will always have to know what the original DDS subformat the file has = in which DDS subformat you will have to save your file in order to make it work with TM.

D/N/S texture examples

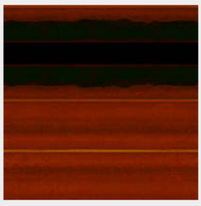
StadiumRoadTurboD.dds

Diffuse Map
The normal "picture" of the road surface.

This is what you see in every case.

Graphics card requires:	Graphics card requires:	Graphics card requires:
PC0/1 shader	PC2 shader	PC3 shader
DDS subformat: **DXT1**	DDS subformat: **DXT5**	DDS subformat: **ATI2/BC5**

StadiumRoadTurboS.dds



Specular Map
Determines in what color th e road parts shine.
The alpha channels determines HOW MUCH parts shine
0% transparency=shiny
100% transparent=matte

StadiumRoadTurboN.dds

Normal Map
The different Cyan/Blue shades represent the "height" of the road parts. These "bump maps" give optical depth to the textures

Attention! The **ATI2/BC5** subformat is rather new (DX10/11), lots of software is not capable of reading/writing it. You will need some good software if you plan on manipulating these textures.
It seems possible to replace these **DDS(ATI2)** files with **DDS(3DC)** files (the "usual" format for normal maps), which most software is capable of reading and writing. Check **HERE** for details.

MipMaps

"Mip maps" are progressively smaller versions of the original image that are tacked on to the original image.

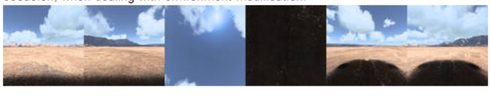
This technique takes work off the GPU when rendering the image at varying distances and yields superior results and better frame rates.

However, when opening a file to edit , open it without the mipmaps visible to make things easier on yourself, EXCEPT of course you want to edit the included mipmaps DIFFERENTLY !
Clever people used this option to paint different content on the different mipmaps, resulting in appearing and vanishing variations on the texture, depending on how close the camera went to it.

Maniaplanet will require mipmaps in textures wherever the textures are used in a 3D environment (game play). Remember this when saving your own textures!

Cube maps

A "cube map" is a texture which is used as a source of reflection on objects. Maniaplanet uses this type of map on exactly 1 occasion, when dealing with environment modification.



Recommended graphics software

NVidia Plugin for Photoshop
This plugin will make life easier for everyone who owns Adobe Photoshop

NVidia Texture Tools
These are command line tools for compressing/decompressing DDS textures. Very powerful, but a bit complicated to handle.

ATI Compressonator
ATI's standalone tool is pretty good for compressing and decompressing/converting DDS textures, including the rather odd ATI2/BC5 format.

DXTBmp
A simple but powerful standalone tool for compressing / decompressing / converting DDS textures, NOT including the ATI2/BC5 format.

GIMP DDS plugin
A plugin for the free graphics software "GIMP".

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